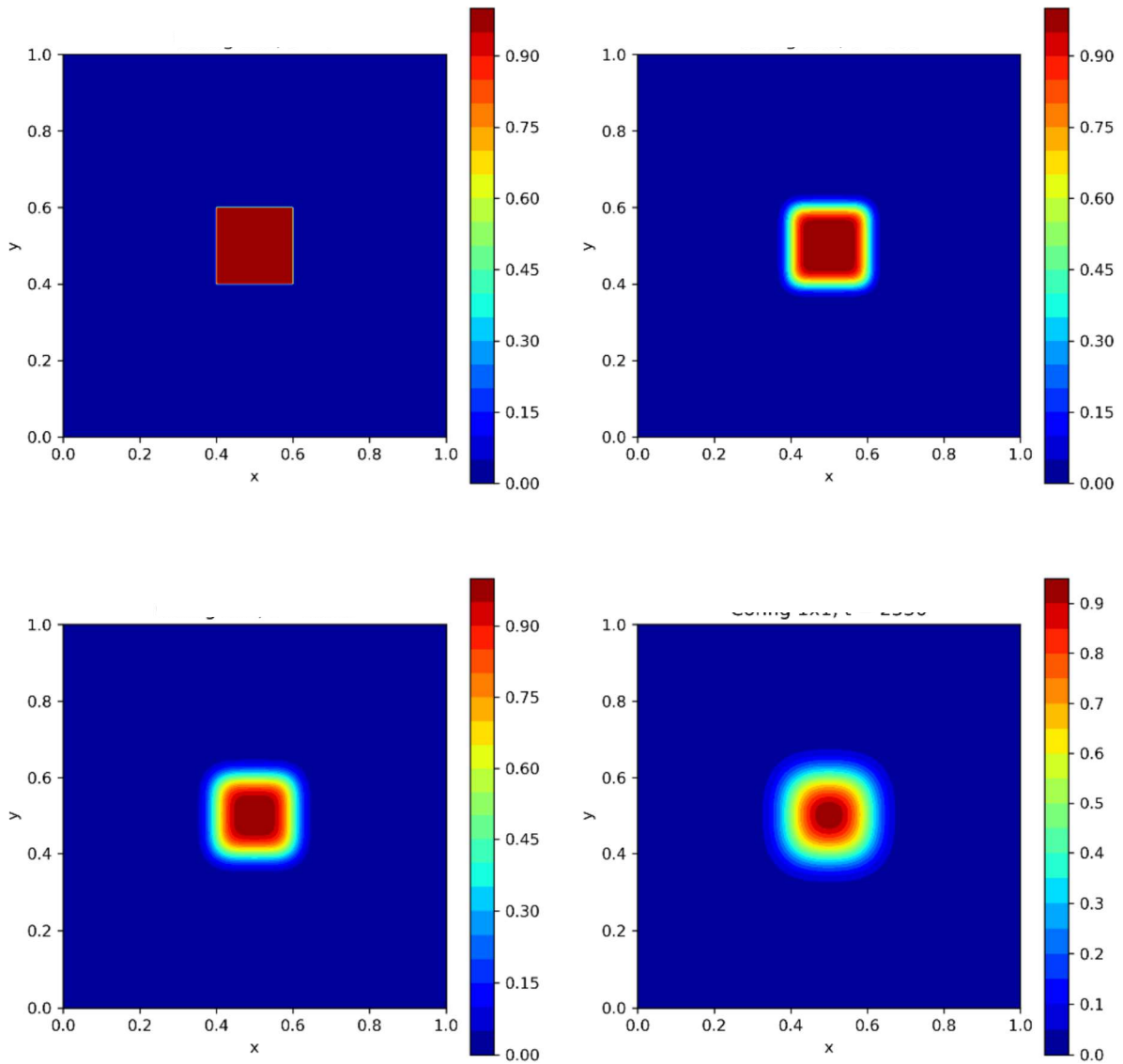


HW5

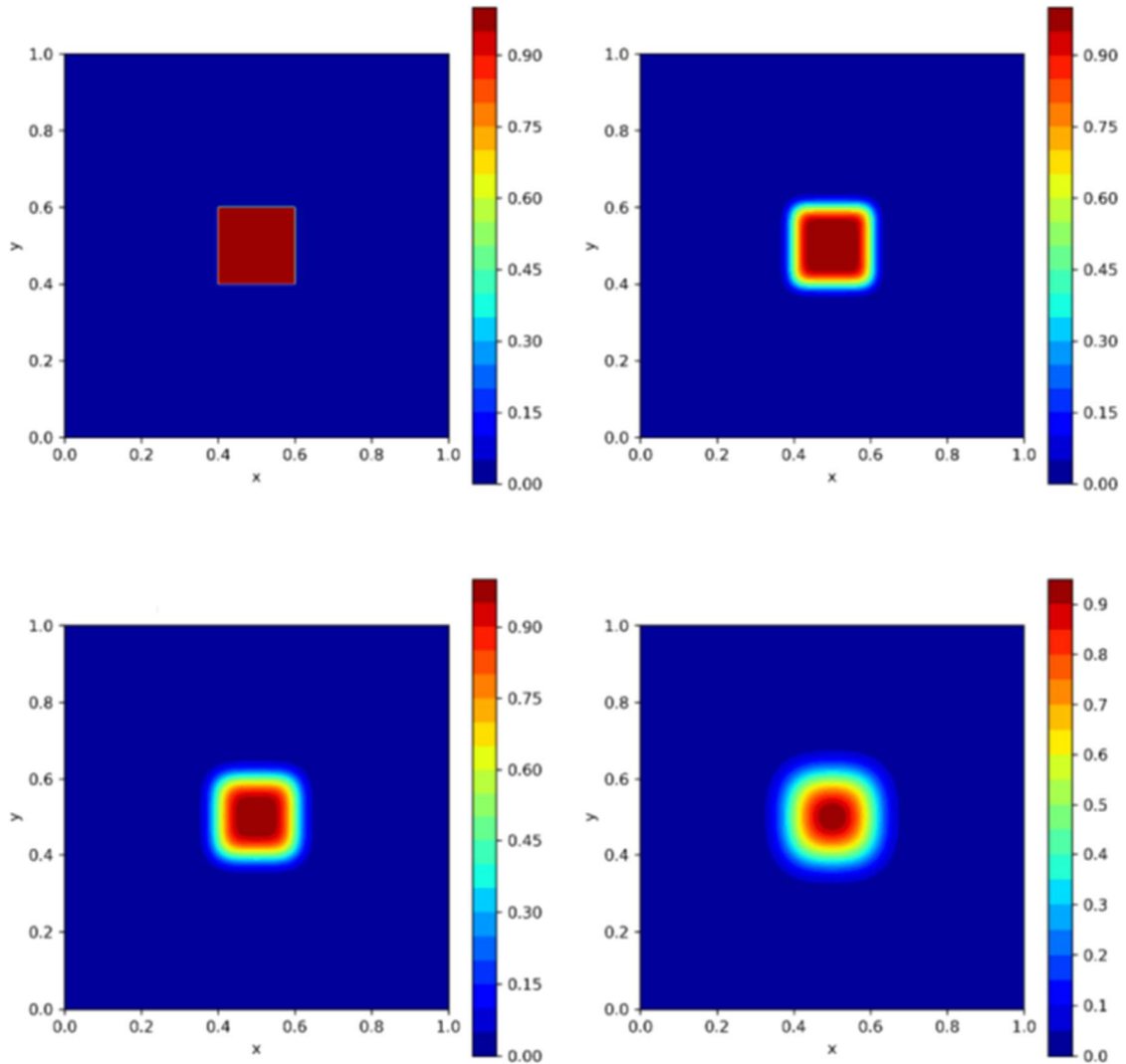
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Plots:

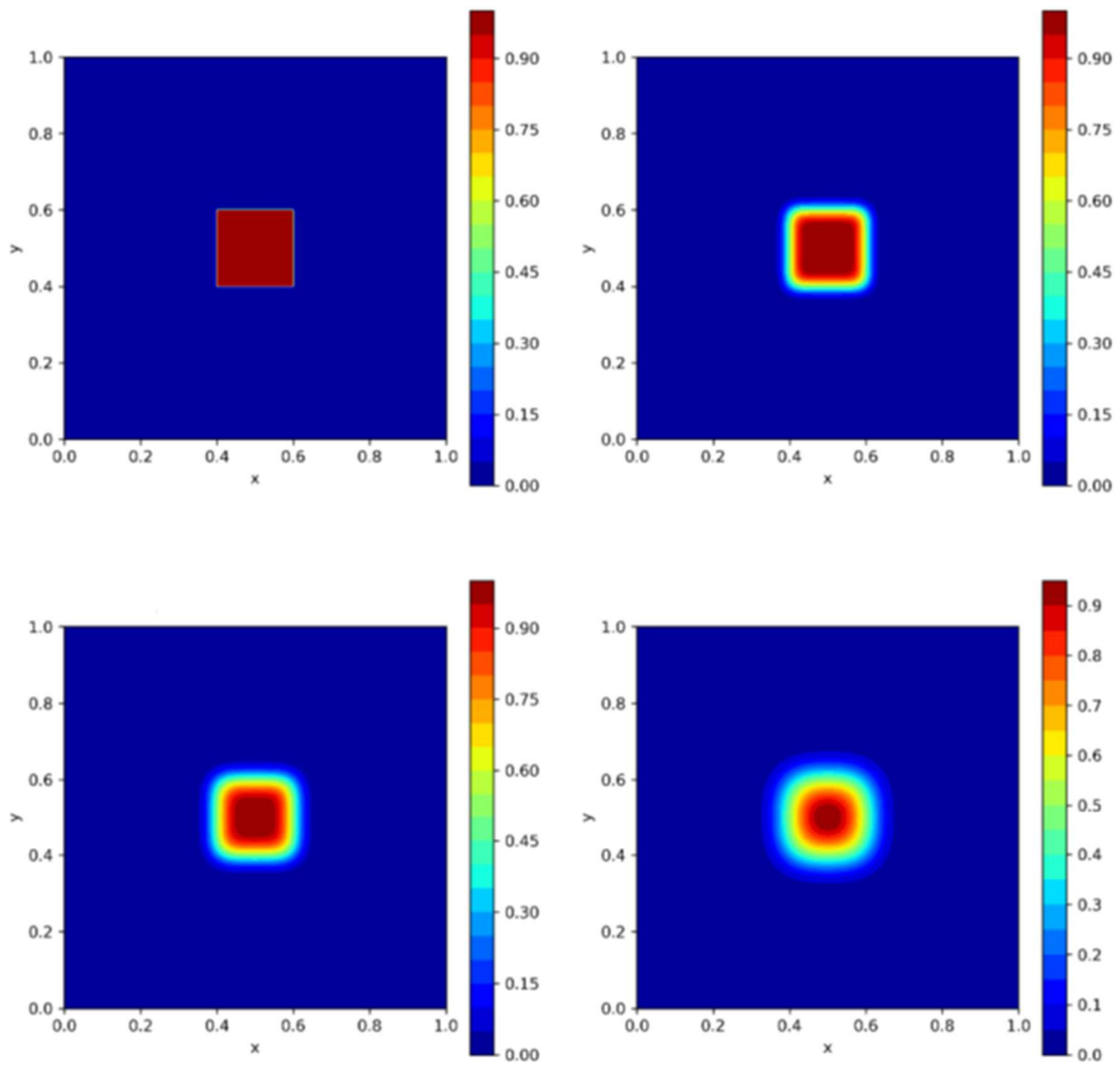
The following plots are for serial code for time steps = 0, 510, 1200, 2550 respectively



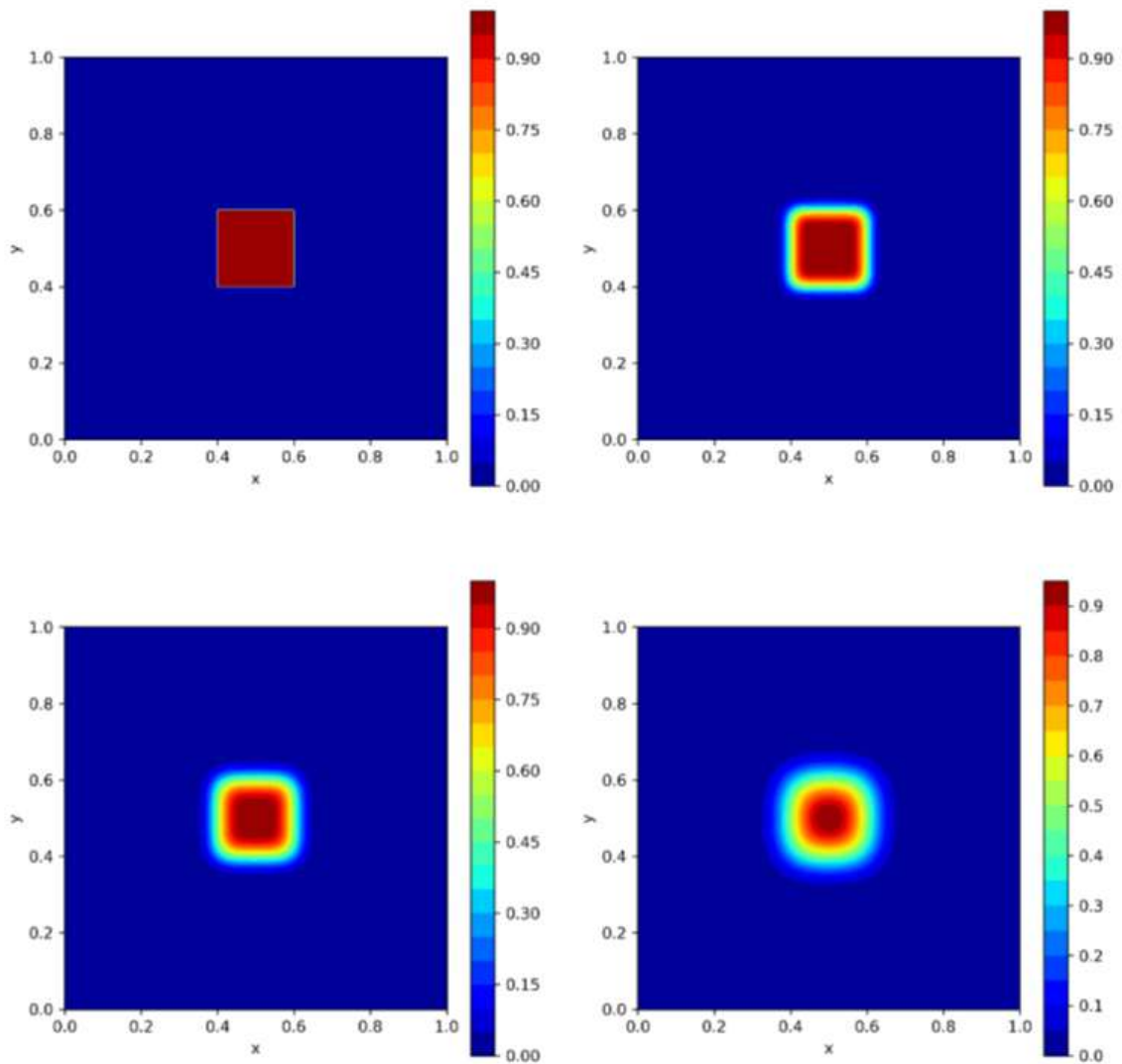
The following plots are for $p_x=p_y=2$ for time steps = 0, 510, 1200, 2550 respectively



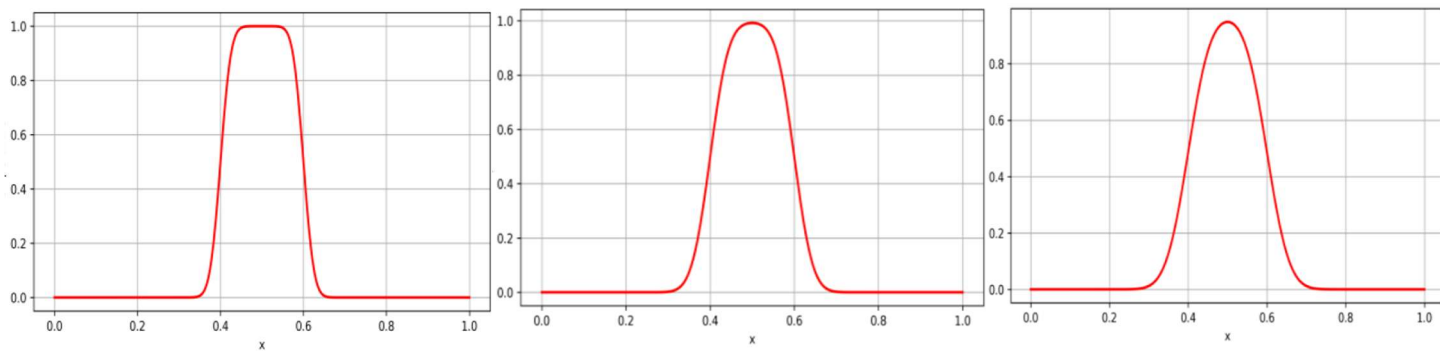
The following plots are for $p_x=2$, $p_y=4$ for time steps = 0, 510, 1200, 2550 respectively



The following plots are for $p_x=p_y=4$ for time steps = 0, 510, 1200, 2550 respectively



The following are the mid line plots at time steps $t = 510$, $t = 1200$, $t = 2550$ respectively. All implementations gave the same plots.



Accuracy:

Px=py=4 gave an average difference of 2.389e-14

Px =py=2 gave an average difference of 1.6149e-13

These results match within machine precision.

Configuration	Total Time (sec)	Time per Step (sec)
Serial	21.37	0.0085
Parallel (px = 2, py = 2)	11.45	0.0051
Parallel (px = 2, py = 4)	14.48	0.0077
Parallel (px = 4, py = 4)	13.25	0.0074